

### Remarks

Applicant respectfully requests reconsideration of this application as amended.

Claims 1, 10 and 17 have been amended. No claims have been cancelled. Therefore, claims 1-6 and 10-17 are presented for examination.

Claims 1, 2, 10, 13 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over "How Debuggers Work", Jonathon B. Rosenberg, 1996 in view of Lo et al. (U.S. Patent No. 6,151,706). Applicant submits that the present claims are patentable over any combination of Rosenberg and Lo.

Rosenberg discloses stack unwinding, which employs an algorithm for finding traces on a stack. Commands are implemented to unwind a stack to find a parent procedure's frame pointer and return address. See Rosenberg at page 136, lines 23-30. The algorithm for unwinding a traditional stack involves pushing return addresses onto the stack. A procedure call pushes a return address onto the stack and a child procedure pushes the parent's frame pointer address onto the stack page 137, lines 23-29. Nevertheless, Rosenberg does not disclose or suggest determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points.

Lo discloses a method a system and method for extending sparse partial redundancy elimination (PRE) to support speculative code motion within an optimizing compiler. See Lo at col. 3, ll. 23-25. However, there is no disclosure or suggestion in Lo of determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points.

Claim 1 of the present application recites determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected

program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points. As discussed above, neither Rosenberg nor Lo disclose or suggest such limitation. Therefore, any combination of Rosenberg and Lo would also not disclose or suggest determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points.

Claims 2-6 depend from claim 1 and include additional limitations. Thus, claims 2-6 are also patentable over Rosenberg in view of Lo.

Claim 10 recites determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points. Accordingly, for the reasons described above with respect to claim 1, claim 10 is also patentable over Rosenberg in view of Lo. Since claims 11 and 12 depend from claim 11 and include additional limitations, claims 11 and 12 are also patentable over Rosenberg in view of Lo.

Claim 13 recites determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points. Therefore, for the reasons described above with respect to claim 1, claim 13 is also patentable over Rosenberg in view of Lo. Since claims 14-17 depend from claim 13 and include additional limitations, claims 14-17 are also patentable over Rosenberg in view of Lo.

Claims 3 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rosenberg in view of Lo and further in view of Gordon et al. (U.S. Patent No. 6,507,805). Applicant submits that the present claims are patentable over Rosenberg and Lo even in view of Gordon.

Gordon discloses a method for building a call stack tree for in a software program. See Gordon at col. 18, ll. 25-30. Nonetheless, Gordon does not disclose or suggest determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points. As discussed above, neither Rosenberg nor Lo disclose or suggest determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points. Thus, any combination of Rosenberg, Lo and Gordon would also not disclose or suggest such a limitation.

Claims 4, 5, 11, 12, 16 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rosenberg in view of Lo et al. and further in view of Dunn et al. (U.S. Patent No. 6,247,172). Applicant submits that the present claims are patentable over Rosenberg and Lo even in view of Dunn.

Dunn discloses a translating software emulator designed for converting code from a legacy system to a target system and fully preserving the synchronous exception state while allowing for full and aggressive optimization in the translation. See Dunn at Abstract. However, Dunn does not disclose or suggest determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points. As discussed above, neither Rosenberg nor Lo disclose or suggest such a limitation. Therefore, any combination of Rosenberg, Lo and Dunn would also not disclose or suggest determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points.

Claims 6 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rosenberg in view of Lo and further in view of Dunn and Gordon et al. (U.S. Patent No. 6,507,805). Applicant submit that the present claims are patentable over any combination of Rosenberg, Lo, Dunn and Gordon as described above since none of these references disclose or suggest determining a set of one or more operations to be inserted into the program in order to set each component of the state at each selected program point, wherein the operations assure that the data structure will be in an accurate state at the selected program points.

Applicant respectfully submits that the rejections have been overcome, and that the claims are in condition for allowance. Accordingly, applicant respectfully requests the rejections be withdrawn and the claims be allowed.


The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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